INDUSTRIES OF THE FUTURE

BestPractices

Plant-Wide Assessments

April 2003

OFFICE OF INDUSTRIAL TECHNOLOGIES

ENERGY EFFICIENCY AND RENEWABLE ENERGY, U.S. DEPARTMENT OF ENERGY

Benefits

- Identify areas for cost and energy savings, for emissions and waste reduction, and for productivity improvements
- Receive expert technical assistance
- Access software tools to assist in decision making
- Share costs of assessment and leverage resources

Visit www.oit.doe.gov/bestpractices to read plant assessment case studies.

Plant-Wide Assessments Help Industry Identify Energy and Cost Savings Opportunities

Plant-wide energy assessments identify overall energy use in manufacturing processes—which can account for 10 percent or more of an industry's total operating costs—and highlight opportunities for best energy management practices for industry, including the adoption of new, efficient technologies. The Office of Energy Efficiency and Renewable Energy's Industrial Technologies Program works with companies to characterize findings and document savings that can be replicated in other facilities and other industries for multiplied savings. On average, the findings from a single assessment can be replicated in at least seven other facilities with equivalent systems and energy use. For a relatively low initial investment, companies that participate in assessments can expect to realize a minimum of $1 million in savings annually from energy costs, waste reduction, and increased productivity—usually with a payback of less than 18 months.

Solicitations Encourage Companies to Participate

Interested companies are invited to submit proposals in response to a plant-wide assessment solicitation usually offered once a year. Specifically, proposals are sought where industry-defined teams will be considering the adoption of best available and emerging technology using state-of-the-art tools, information, process engineering techniques, and best practices for operating and planned plant support and process systems. Industrial sites that fall within the Industrial Technologies Program's initiatives are considered for an award. These include industries such as, but not limited to, forest products, chemicals, petroleum, steel, aluminum, metal casting, glass, mining, and agriculture industries. Funding of up to $100,000 is available for each project selected, with a required industrial cost share of at least 50 percent. Companies are strongly encouraged to develop and work closely with teams which could be composed of their resource and equipment suppliers, engineering firms, and other third party entities. Solicitation information is posted to the Industrial Technologies Program and BestPractices Web sites (www.oit.doe.gov/bestpractices), and is sometimes advertised in industry trade magazines.

Plant assessments address a variety of generic and industry-specific technology areas, and a variety of plant/process optimization methods. Proposal writers should also consider demand-side energy management best practices and technology implementation in plant steam delivery and process heating systems; electric-motor systems (including motors, drives, pumps, fans, blowers); compressed air systems; and heat exchange optimization (e.g., pinch technology). In addition, proposal writers should consider supply-side options using cogeneration and combined heat and power system technologies.

The results, successes, and experiences from these assessments are published in case studies (which are also posted to the BestPractices Web site) and the *Energy Matters* newsletter. Confidentiality is protected and no proprietary company information is released. By publicizing assessment findings and results, the Industrial Technologies Program encourages other U.S. manufacturers to adopt and implement similar approaches for increasing energy efficiency and reducing environmental emissions. Participating plants will become aware of and gain access to all Industrial Technologies Program emerging technologies and best practices, and tools and information resources that could help them implement the most cost-effective, state-of-the-art technology.

Additional Assessment Options

Small- to medium-sized manufacturers may be eligible to receive assessments by university-based Industrial Assessment Centers. Teams of engineering faculty and students from the centers—located at 26 universities around the country—conduct energy, waste reduction, and productivity-improvement audits and then provide recommendations to manufacturers. Recommendations from industrial assessments have averaged about $55,000 in potential annual savings for each manufacturer. For more information, visit the Industrial Assessment Center Web site at *www.oit.doe.gov/iac*.

BestPractices is part of the Industrial Technologies Program's Industries of the Future strategy, which helps the country's most energy-intensive industries improve their competitiveness. BestPractices brings together the best-available and emerging technologies and practices to help companies begin improving energy efficiency, environmental performance, and productivity right now.

BestPractices focuses on plant systems, where significant efficiency improvements and savings can be achieved. Industry gains easy access to near-term and long-term solutions for improving the performance of motor, steam, compressed air, and process heating systems. In addition, the Industrial Assessment Centers provide comprehensive industrial energy evaluations to small and medium-size manufacturers.

FOR ADDITIONAL INFORMATION, PLEASE CONTACT:

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